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THE INSECT PEST SURVEY BULLETIN

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OUTSTANDING ENTOMOLOGICAL FEATURES FOR JULY, 1922.

The Hessian fly situation is very favorable over the greater part of the wheat Belt. Reports from Ohio, Illinois, and Indiana indicate a very decided reduction of this pest over last year. For the first time in 15 years this insect is reported from Minnesota, and the worst outbreak in the past 4 years occurred in Iowa this summer. The fly is also quite serious in parts of Nebraska, where it will in all probability seriously infest the fall grain.

The chinch bug has proven abundant and destructive in northwestern Ohio, the greater part of Indiana, southern and central Illinois, southeastern Iowa, south-central Nebraska, practically all of Missouri, and the Delta section of Mississippi.

The widespread boll weevil infestation reported in the last number of the Survey Bulletin has decidedly increased in intensity during July. Reports of very heavy infestations have been received from many localities in eastern Texas, southeastern and central Oklahoma, central Arkansas, northern Louisiana and Mississippi, the greater part of Alabama, southwestern Tennessee, and many places in Georgia, South Carolina, and southeastern North Carolina.

The greater wheat-stem maggot is becoming more abundant and injurious than usual in the north-central States, northern Illinois, Minnesota, and North Dakota reporting damage this year, and considerable attention is being attracted by the wheat midge in southern Ohio and Indiana, where this pest seems to be on the increase.

A rather unique armyworm outbreak is under way in central and southern California. Several species, so far undetermined, are involved in this outbreak. The fall armyworm has appeared in rather serious numbers in parts of Tennessee.

The stalk borer is more prevalent than was the case last year. Reports of rather serious infestations have been received from New England, New York, West Virginia, the east-central States, North Dakota, northeastern Nebraska, Missouri, and Mississippi.

The alfalfa weevil, newly reported last year from the western part of Nevada near the California State line, now occurs throughout the Lovelock Valley in Pershing County, north of the Reno infestation. In southern and eastern Idaho it seems to be less abundant, possibly owing to the hymenopterous parasite which is on the increase in this region. In southwestern Idaho the weevil is extending its range and is reported from Canyon County.

During the latter half of June and early July reports of a root curculio attacking soy beans in Indiana, Missouri, and Illinois were received. At the time of the issue of our last Bulletin these were believed to be Sitona hispidulus Fab. (See Vol. 2, No. 4, page 115.) Specimens have since been received by the Bureau and determined by Dr. E. A. Schwarz as Sitona crinita Hbst. This is a common European species and is possibly a quite recent introduction into this country.

THE HISTORY OF THE UNITED STATES OF AMERICA

The first part of the history of the United States of America is the period from the discovery of the continent by Christopher Columbus in 1492 to the establishment of the first permanent settlements. This period is characterized by the exploration of the continent by Spanish, French, and English explorers, and the establishment of the first permanent settlements by the English in 1607.

The second part of the history of the United States of America is the period from the establishment of the first permanent settlements to the American Revolution in 1776. This period is characterized by the growth of the colonies, the struggle for independence, and the establishment of the United States as a new nation.

The third part of the history of the United States of America is the period from the American Revolution to the Civil War in 1861. This period is characterized by the expansion of the United States, the struggle for slavery, and the establishment of the United States as a federal republic.

The fourth part of the history of the United States of America is the period from the Civil War to the present. This period is characterized by the Reconstruction era, the Gilded Age, the Progressive Era, and the modern era.

The fifth part of the history of the United States of America is the period from the present to the future. This period is characterized by the challenges of the future, such as climate change, nuclear war, and the rise of artificial intelligence.

The sixth part of the history of the United States of America is the period from the future to the end of time. This period is characterized by the ultimate fate of the universe, and the role of the United States in the history of the world.

The seventh part of the history of the United States of America is the period from the end of time to the beginning of time. This period is characterized by the creation of the universe, and the role of the United States in the history of the world.

The eighth part of the history of the United States of America is the period from the beginning of time to the present. This period is characterized by the evolution of life on Earth, and the role of the United States in the history of the world.

Grasshopper outbreaks in Wisconsin, Nebraska, Montana, and Idaho have been reported. Less serious local depredations are reported from Mississippi, northern Indiana, and Iowa.

Aphid infestations in apple orchards are reported as very severe in Ohio. Aphids are also numerous in Massachusetts, Connecticut, and a few places in New York and Missouri.

Very dry weather in Washington and Oregon is held to be responsible for aggravated codling moth infestation in these States.

The fruit-tree leaf-roller is reported as injurious for the first time in several of the apple-growing sections of Idaho.

The San Jose scale appears to be still on the increase in Indiana, Iowa, Missouri, Arkansas, and Georgia.

The spotted cutworm is reported from Massachusetts as seriously damaging onions in parts of the Connecticut Valley onion region, the invasion of the onion fields usually following the mowing of near-by sodland.

The fall webworm is reported as more abundant and injurious than noted heretofore at this time of the year in Mississippi. It is also appearing in considerable numbers in Louisiana, eastern Nebraska, and parts of Iowa.

Thousands of acres of pine in northwestern Wisconsin are infested by an undetermined species of *Olene*.

A very large shipment of imported parasite material was received this spring at the Bureau of Entomology's Japanese beetle laboratory in New Jersey.

The Australian tomato weevil, reports of which have been published in the last two numbers of the Survey Bulletin, is the insect described by Lea under the name of Desiantha nociva. However, our most recent information on this pest indicates that it belongs to the large complex known as *Listroderes*, a complex containing several distinct genera, one of which is *Listronotus* Jek. The species nociva does not belong to *Listronotus* as recognized by LeConte, of which there are 20 species in North America. It is more closely related to several South American *Listroderes*. Although the pest undoubtedly does not belong to the genus *Desiantha* we believe it will be advisable to adhere to this name until future studies of the *Listroderes* complex are published.

CEREAL AND FORAGE - CROP INSECTS

WHEATHESSIAN FLY (Phytophaga destructor Say)

- New York L. C. Tyler (June 23). "Wheat is already going down in many fields in Genesee County. The insects are now largely in the flaxseed stage. Apparently the infestation will be quite serious."
- Ohio H. A. Gossard (July 21). "State-wide survey was completed late in June and indicated that the Hessian fly has been reduced to normal numbers (1 to 5 per cent infestation) in all counties of the State, except the northwestern 15 or 20 counties. The percentage of infestation here was much lower than last year, varying from 10 to 30 per cent where wheat was seeded as advised. In every instance: where wheat had been seeded a week or two earlier than the fly-free date the infestation ran from 80 to 100 per cent, while fields seeded at the advised time ran in every case with but one exception below 20 per cent. In Williams County the average infestation ranged from 20 to 30 per cent, even though the fly-free date was generally heeded; we probably missed the date by two or three days in this county, or possibly the old volunteer stubble fields contributed to the high infestation. Parasitism seems to be very high in all of the badly infested fields this season."
- Indiana J. J. Davis (July 20). "No heavy infestations found in the northern half of the State; examinations show 5 to 50 per cent infestation, usually ranging between 5 and 15 per cent."
- Illinois C. C. Compton (June 17). "In Kendall County general infestation ranges from 5 to 8 per cent; in one field a 50 per cent infestation was discovered."
- Minnesota A. G. Ruggles (July 19). "The first authoritative report of this insect in Minnesota in the past 15 years was received this month. A winter wheat field in Carver County was badly infested. No other complaints have been received and it is possible that the infestation is localized."
- Iowa F. A. Fenton (July 15). "The Hessian fly had done more damage to wheat in Iowa than for four years and is on the increase. In some places wheat has not yielded more than 10 bushels to the acre. Heavy damage has resulted wherever wheat was planted early."
- Nebraska M. H. Swenk (July 15). "Harvest revealed the presence of the Hessian fly in moderate abundance over southern Nebraska, and in some localities in large enough numbers to do material damage to the wheat crop; such local centers of more than moderate abundance and injury are present in Dakota, Washington, Dodge, Saunders, Seward and

Furnas Counties. In these places the Hessian fly may be regarded as a menace to the wheat crop to be sown this fall.

. . . GREATER WHEAT-STEM MAGGOT (Meromyza americana Fitch)

- Illinois W. P. Flint (July 18). "This insect has been quite abundant in northern Illinois. Injury reported from several localities in spring wheat and barley; more abundant than usual in central and northern Illinois in winter wheat, apparently working more in the bearded than in the smooth varieties."
- Minnesota A. G. Ruggles (July 17). "The wheat-stem maggot seems to be doing considerable damage in the State this year."
- North Dakota R. L. Webster (July 15). "Reports of white-head in wheat have been common; most of them appeared to be due to this insect."

. . . WHEAT MIDGE (Contarinia tritici Kirby)

- Ohio H. A. Gossard (July 21). "In several of the southern counties the wheat midge was found to be very numerous, and damage to the crop was high in 3 or 4 counties, some fields possibly damaged 50 per cent and many others to a lesser extent. This insect seems to be distinctly on the increase over the southern half of the State."
- Indiana J. J. Davis (July 20). "We are getting a few reports from farmers who find the larvae in thrashed wheat. Apparently no great damage."

. . . JOINTWORM (Harmolita tritici Fitch)

- Illinois W. P. Flint (July 18). "Infestation in south-central and southern Illinois much more numerous than usual."

. . . FRIT FLIES (Oscinis spp.)

- North Dakota R. L. Webster (July 15). "There was considerable damage to some of the wheat plats on the College grounds this year. Adult flies are still emerging. At least two species are involved in the outbreak."

. . . EUROPEAN WHEAT SAWFLY (Cephus pygmaeus L.)

- New York C. R. Crosby and J. B. Palmer. "A survey was carried on from July 7 to July 14 in western New York, to ascertain the abundance of the European wheat sawfly. This pest was found to be abundant in parts of Wyoming, Genesee, Erie, Niagara, Orleans, Monroe, Wayne, Cayuga, Oswego, Onondaga, and Tompkins Counties."

. . . PALE WESTERN CUTWORM (Porosagrotis orthogonia Morr.)

- Montana A. L. Strand (July 1). "This insect is much less abundant than during usual years. A loss of between 10 and 15 per cent of the total seeded area, which is a decrease of more than 18 per cent

from the loss occasioned in 1921, is shown in Hill County this season. Small losses have occurred in Liberty and Toole Counties, but they amount to nothing in comparison with the losses occasioned during the past several years. Through many sections of central and northern Montana, the worst infested part of Montana since 1915, no pale western cutworm damage has been suffered."

ARMYWORMS (species undetermined)*

California Weekly News Letter, California Department of Agriculture (July 1). "Reports have been received of outbreaks of armyworms from the Counties of Tuolumne, El Dorado, Fresno, Amado, and San Luis Obispo. The armyworms are largely hatching on uncultivated areas or in orchards in which weeds have been allowed to grow. They travel rapidly and destroy the cultivated crops and young trees in their path... Investigation of the outbreak and specimens sent to the State Laboratory show that several species are involved in this destructive work."

WHEAT-HEAD ARMYWORM (Neleucania albilinea Huebn.)

Minnesota A. G. Ruggles (July 19). "The wheat-head armyworm has been doing considerable damage in different parts of the State."

CORN

CHINCH BUG (Blissus leucopterus Say)

Ohio H. A. Gossard (July 21). "Chinch bugs were found to be quite numerous over 8 or 10 northwestern counties, centering from Defiance County eastward. Abundant rains lately seem to have put considerable check upon chinch bugs and we have heard less of them than we expected."

Indiana J. J. Davis (June 20). "Considerable damage in the State by this insect. Farmers failed to heed warning until too late to effectively control it in many sections. In some sections where county agents organized in time effective controls were secured, Conditions up to the present time favorable for the second generation."

Illinois W. P. Flint (July 18). "Infestation now found to cover all but about 25 counties in north and northwestern Illinois. General flight of first-brood adults now taking place and second-brood nymphs beginning to appear. In southern Illinois a few localities have had sufficient rain to decrease the number of bugs. In most parts of central Illinois rainfall has not been sufficient to affect these insects."

Iowa F. A. Fenton (July 15). "The chinch bugs are still doing damage in Lee County, but the situation is well in hand. They have appeared in several other localities, but have been especially destructive in Wayne County, where they are present in the corn now and are doing a tremendous amount of damage."

The most prevalent species has been determined by Mr. Wm. Schaus as Prodenia praefica Grote.

Fred D. Butcher (July 20). "In addition to the before-mentioned counties, chinch bugs are doing considerable damage in Henry County."

Nebraska

M.H.Swenk (July 15). "A moderate outbreak has developed in south-central Nebraska from southern Gage County along the southern boundary of the State of Harlan County, the center of severity being in Thayer and Nuckolls Counties. During the last week in June this pest had deserted the ripening barley and wheat and made its way into the cornfields. Such migrations continued until about July 5, when most of the cornfields that were subject to the attack had been invaded. The usual loss of corn in the invaded fields up to the middle of July was from 2 to 5 acres on the side of the field nearest to the barley or wheat, but the damage to this extent is common enough to make a serious reduction in the corn yield of the 7 counties concerned. Reports of a local outbreak in Dawes County were received. It remains to be seen how serious the threatened outbreak in Knox and Boyd Counties will be during the latter part of July."

Missouri

A. C. Burrill. "The chinch bug is much worse than usual in Adair, Macon, Knox, and Sullivan Counties. In many cases from 10 to 100 acres of corn in a single block totally destroyed by these insects. Present indications are that 8 of the previously lightly infested counties will lose at least 500,000 bushels of corn. In the northern tier of counties there is little or no damage, the second tier southward will lose approximately 500,000 bushels of corn, the third tier will lose perhaps 1,000,000 bushels, and the fourth tier about the same, the fifth and sixth tiers will lose several millions, and the seventh or eight tiers but little less."

Mississippi

R. W. Harned (July 18). "Still abundant in the Delta section of Mississippi. Complaints have been received especially from Coahoma, Tunica, Quitman, Panola, Bolivar, Sunflower, Washington, Leflore, Carroll, and Sharkey Counties. Many people report that the chinch bugs have never before been so numerous. In fact, this is the first time that many people on the infested farms have ever even noticed the chinch bugs."

BOLLWORM (Heliothis obsoleta Fab.)

Delaware

C. O. Houghton (July 15). "Sweet corn is being injured considerably by this species."

Ohio

H.A.Gossard (July 21). "Specimens of the corn earworm were found in Ross County in June, and some of them had pupated two or three weeks ago. Apparently this insect will be quite numerous again this season."

Illinois

W. P. Flint (July 18). "Larvae have been taken on beans in central Illinois."

Mississippi

R.W.Harned (July 18). "The bollworm is attracting about the normal amount of attention as a pest of cotton, corn, and tomatoes. It is usually fairly abundant in all parts of Mississippi."

FALL ARMYWORM (Laphygma frugiperda S. & A.)

Tennessee S. Marcovitch (July 27). "Three isolated infestations were found in McNairy County. About 50 per cent of a 25-acre field in one place was completely destroyed. The rather wet spring may account for the present outbreak."

STALK-BORER (Papaipema nitela Guen.)

Massachusetts H. T. Fernald (July 12). "The common stalk-borer is being reported from several parts of the State, and is evidently normally abundant. It has also been reported attacking dahlias and hollyhocks this year. County Agent of Berkshire County reported that 50 per cent of the hills in sweet cornfields were infested."

Connecticut B. H. Walden (July 21). "This insect has been found more abundant than usual at Hampden and Bethel. In the last place Mr. Charles D. Clark reports a serious infestation of sweet corn."

New York C. R. Crosby (June 30). "This insect has been found attacking a great number of garden flowers in Broome and Putnam Counties, among which are iris, peony, hibiscus, gladiolus and columbine; they have also been observed attacking peppers and tomatoes."

West Virginia L. M. Peairs (July 5). "This insect has been reported from various places in the State where it is attacking corn, beans, strawberry stems, wheat, castor beans, and several weeds."

Ohio H. A. Gossard (July 21). "We have received a great number of specimens of the common stalk-borer in corn. Many of these are sent in by farmers who mistake this larva for the European corn borer."

Indiana J. J. Davis (July 20). "This insect continued to be the subject of inquiries the past month. Injury has been to tomatoes and corn as a rule."

Illinois W. P. Flint (July 18). "Larvae have been unusually abundant this year. Injury has already been reported from a number of localities, most of the damage being done to corn and peas."

Iowa F. A. Fenton (July 18). "The stalk-borer continues to be very destructive to corn and has also been reported from several other plants. Probably 30 per cent of our correspondence is concerning this pest, which is now usually in the last larval stage."

North Dakota R. L. Webster (July 12). "This insect is said to be causing much damage to young boxelder trees as well as corn, tomatoes, and flower plants."

Nebraska M. H. Swenk (July 15). "In the extreme northeastern Nebraska Counties, Knox, Cedar, Dixon, Dakota, and Thurston, and during the last ten days in June and the first few days in July there was an unusual amount of injury to corn, oats, and potatoes by the caterpillars of the stalk-borer. The injury to potatoes in Dakota County was in some fields very severe."

Missouri A. C. Burrill (June 30). "This insect is very serious in parts of Knox, Sullivan, and Adair Counties, one man reporting that every tomato plant set out was destroyed by this insect."

Mississippi R. W. Harned (July 18). "The stalk-borer seems to be more abundant than usual this year."

ARMYWORM (Cirphis unipuncta Haw.)

Illinois W. P. Flint (July 18). "Adults becoming very abundant in the central part of the State, but show only in moderate numbers in southern and northern Illinois."

SUGAR-CANE BORER (Diatraea saccharalis Fab.)

North Carolina Franklin Sherman (July 21). "The larger corn stalk-borer is apparently more abundant than normally."

SUGAR-CANE BEETLE (Euetheola rugiceps Lec.)

Mississippi R. W. Harned (July 18). "Complaints continue to be received in regard to the rough-headed corn stalk-borer. In most cases these insects are injuring corn."

CORN ROOT APHID (Aphis maidi-radiciis Forbes)

Indiana J. J. Davis (July 20). "The corn root aphid has been the subject of an unusual number of inquiries."

EUROPEAN CORN BORER (Pyrausta nubilalis Huebn.)

New York E. P. Felt (July 21). "Recent examinations in the eastern area indicate nearly identical conditions as regards infestation with those of last year with the possible exception of a greater degree of infestation in the areas where the insect was most abundant. There appears to have been comparatively little increase in numbers in the surrounding more sparsely infested territory. Third and fourth stage larvae were being found from the middle to the 20th of July."

CORN-SILK BEETLE (Luperodas varicornis Lec.)

Louisiana T. H. Jones (July 7). "An outbreak of this beetle occurred at Eden in LaSalle Parish. The injury was apparently largely confined to hill land, and here the beetle had kept the silk eaten off to such an extent that few if any kernels had formed. The ears will not be worth gathering in the fields where the beetles have been abundant. Beetles were said to appear late in April and early in May, and at the time of my visit were disappearing. It is said that it is not possible to raise a crop of early corn in this particular section. Late corn, silking after the beetles disappear, is advisable on this account. These beetles also feed on the tassels."

GRAPE COLASPIS (Colaspis brunnea Fab.)

Minnesota

A. G. Ruggles (July 19). "In the southeastern county of the State our Mr. Mickel found this beetle doing considerable damage in cornfields."

WHITE GRUBS (Phyllophaga spp.)

Wisconsin

S. B. Fracker (June 26). "Well grown larvae of the 1923 brood common in the southern part of the State. Adults of other broods reported in Juneau County and several localities in the northern section."

ALFALFA

ALFALFA WEEVIL (Phytonomus posticus Gyll.)

Idaho

Claude Wakeland & D. B. Whelan (June 15). "This insect is less abundant than in 1921 in eastern Idaho where it has been on the decrease for the past three years. In southern and eastern Idaho the numbers of Bathyplectes curculionis Thoms. have increased greatly. The inference would be that natural enemies are aiding in reducing the number of weevils. In southwestern Idaho, the amount of injury varying from very slight to more than 50 per cent of the first crop. In this part of the State the insect is spreading. The great overlapping of the egg and larva stages in this region makes control work less effective and it may prove necessary to adapt a two-spray method of control. The pest is just becoming established in Canyon County."

Nevada

G. I. Reeves. "Mr. K. N. Pack reports finding weevils in a field at Lovelock, in Pershing County, on June 21."

C. W. Creel. "Mr. Eldon Wittmer has just completed a survey in the Lovelock Valley and finds the weevils in rather large numbers on four ranches. These ranches are several miles apart, indicating a general distribution of the weevils in this valley."

SPOTTED BLISTER BEETLE (Epicauta maculata Say)

Idaho

Claude Wakeland (July 3). "County agent reports adult blister beetles as doing serious injury to blossoms and seeds of Grimm alfalfa. The specimens sent me are tentatively determined as Epicauta maculata."

PEA APHID (Illinoia pisi Kalt.)

Illinois

W. P. Flint (July 18). "This insect has been increasing during the last month and at present is killing clover in several counties in central Illinois."

Montana

A. L. Strand (June 11). "On May 29, specimens of this aphid were sent in from Park City, where they were reported causing serious damage to alfalfa. By June 2, it was estimated that the crop in many alfalfa fields in that district was cut down 75 per cent."

About this time numerous lady-beetle larvae were noticed in the fields, and by the 11th of June the aphid infestation had been practically cleaned up by them."

GARDEN WEBWORM (Loxostege similalis Guen.)

Indiana J.J.Davis (July 20). "A webworm, apparently Loxostege similalis, has just been received from Shipshewana in the extreme northern end of the State where it is reported as damaging alfalfa. The same species was responsible for injury to alfalfa in this locality last year."

SOYBEANS

SOYBEAN ROOT CURCULIO (Sitona crinita Hbst.)

Indiana J.J.Davis (June 27). "This insect has been reported from Clinton and Howard Counties as injuring soybeans. I recall last year having received a letter from a correspondent in Clinton County advising us that this insect was doing considerable damage to soybeans. These beetles were not recognized when collected. Specimens sent to the Bureau of Entomology were determined by Dr. E. A. Schwarz as above, with a statement that this is a common European species and probably a rather recent importation."

Missouri A.C.Burrill (June 23). "Adult beetles resembling the Sitona destroyed 60 per cent of the foliage of soybeans planted in corn following the turning under of blue-grass sod. Specimens of this insect were received by Dr. Haseman from another locality in Missouri doing similar damage. This material was sent to the Bureau of Entomology and was tentatively determined as Sitona crinita Hbst."

NOTE: The notes appearing under Clover-Root Curculio, Sitona hispidulus Fab. in Volume 2, No. 4, page 115, of the Insect Pest Survey Bulletin, without a doubt refer to this insect.-J.A.Hyslop.

GENERAL FEEDERS

GRASSHOPPERS (Acridiidae)

Indiana J. J. Davis (July 20). "Grasshoppers have been reported recently injuring alfalfa in the northern end of the State."

Iowa F.A.Fenton (July 15). "The differential grasshopper, Melanoplus differentialis Thos., has been destructive in Shelby County and the two-striped grasshopper, Melanoplus bivittatus Say, has occasioned damage to crops in the southwestern counties of the State."

Fred D.Butcher (July 20). "A small outbreak of grasshoppers occurred in Page County late in June. They were successfully controlled by poisoned bran mash."

Wisconsin E. L. Chambers (June 28). "A very severe outbreak of grasshoppers is under way in Door, Marinette, Forest, Florence, and Oneida Counties. The infested area extends farther west than last year, covering

several townships in Price County. Over 10,000 bushels of poisoned bran mash have already been distributed."

- Nebraska M.H.Swenk (July 15). "Grasshopper injury continues most serious in Scottsbluff, Morrill, Sheridan, and Sioux Counties in western Nebraska. A serious local outbreak in southeastern Washington County developed late in June."
- Montana A.L.Strand. "The two-striped grasshopper has increased enormously through the Yellowstone Valley and is causing considerable damage, especially to alfalfa."
- A. L. Strand. "The clear-winged grasshopper, Camnula pellucida Scudd., is especially abundant throughout the Marias River counties which were very dry last season (Glacier, Toole, Pondera, Liberty, and Chouteau Counties). As one proceeds farther southward the number of warrior grasshoppers decreases and the lesser migratory grasshopper Melanoplus atlantis Riley preponderates. This last-named grasshopper is very abundant throughout the sections of northern and eastern Montana in Hill, Blaine, Chouteau, Cascade, Phillips, Valley, and Lewis and Clark Counties. In some places many of the hoppers of this species are already winged, while in other localities they have just hatched."
- Idaho Claude Wakeland (July 3). "In the vicinity of Rexburg they had serious trouble with grasshoppers, and it is quite probable that the unusual abundance of blister beetles observed this year is connected with this grasshopper outbreak."
- Idaho & Utah H. J. Pack (July 26). "The black cricket (Anabrus simplex Hald) has reappeared in Uintah and Cache Counties and even in greater numbers just over the State line in Idaho where a strip of country at least 5 miles wide and fifteen miles long is infested. Farmers and business men have joined in "cricket drives" pending the outcome of poisoned bait experiments."
- Nevada C.W.Creel (July 10). "County agent of Elko County reports grasshoppers coming off the foothills and invading cultivated lands in South Fork, Lamaille, Starr, and Metropolis Valley. The majority of these grasshoppers are still wingless. In some wheat fields the crop has been totally destroyed."
- Mississippi R.W.Harned (July 18). "The differential grasshopper is causing considerable damage at different places in Mississippi. In Tallahatchee County 25 acres of soybeans have been almost wholly destroyed and they were working in a 250-acre field. In Monroe County the grasshoppers were destroying everything in a garden, including potatoes, tomatoes, and beans."

FRUIT INSECTS

APPLE

APPLE APHID (Aphis pomi DeG.)

- Massachusetts H. T. Fernald (July 10). "The rosy apple aphid is now disappearing from the apple and the green apple aphid is becoming abundant, particularly on young trees."
- Connecticut W. E. Britton (June 27). "Mr. H. L. Johnson, county agent of New London County, reports that aphids are very abundant this season and have done much damage in apple orchards."
- New York C. R. Crosby and assistants report that this insect continues to be abundant in Ulster, Monroe, Niagara, and Orleans Counties but is not particularly serious."
- Missouri A. C. Burrill (June 20). "This insect is more abundant than usual about Columbia."
- Ohio H. A. Gossard. "One outstanding feature of the season has been the severe infestation of aphids in apple orchards. Several orchardists have reported to us that they have never experienced such a severe outbreak of aphids and have found it almost impossible to check them by means of spraying or dusting. At present natural enemies are abundant."
- Mississippi R. W. Harned (July 10). "Messrs. H. W. Allen and F. M. Hull report that earlier in the season this insect was abundant enough to roll the terminal leaves of 2-year old trees. They had largely disappeared by this date."

ROSY APPLE APHID (Anuraphis roseus Baker)

- Massachusetts H. T. Fernald (July 10). "This aphid has now disappeared from the apple trees."
- Connecticut W. D. Clark (July 20). "Aphid injury is particularly noticeable on Baldwin trees, especially so on trees having a heavy set of fruit; apples small and misshapen."
- New York E. V. Shear (June 24). "Rosy aphid has migrated from apple trees but has left many orchards with from 50 to 60 per cent of the trees injured in Ulster County."

CODLING MOTH (Carpocapsa pomonella L.)

- New York C. R. Crosby and assistants report that from the middle of June to the 1st of July codling moths were ovipositing in Monroe, Orleans, and Niagara Counties. With but few exceptions all of the growers had completed the codling moth spray by June 28."
- Delaware C. O. Houghton (July 15). "Moths of the summer brood are now emerging about Newark."

- Ohio H. A. Gossard (July 21). "The first codling moth to emerge in our cages at Wooster came out July 20, which indicates that they may be expected to appear about the normal time."
- Indiana J. J. Davis (Special Information Letter, Purdue University, June 30). "A study of the conditions in several sections of Indiana shows that the first larvae of the second brood of the codling moth will issue from Mitchell and Vincennes southward about July 4, from Bloomington about July 7, from Noblesville about July 11; from Ft. Wayne July 15, and in the extreme northern section of the State July 21."
- Missouri A. C. Burrill (June 20). "Full grown worms are already spinning cocoons though some are to be found on apples on the trees. Unsprayed trees show fruit about 50 per cent infested."
- Washington E. J. Newcomer (July 7). "The continued hot weather in June caused the fruit to grow very rapidly but also caused the first brood of codling moths to develop early with the result that the ordinary spraying practice (two cover applications two to three weeks apart) was inadequate and the fruit is wormier than usual in the Wenatchee and Yakima Valleys."
- Oregon A. L. Lovett (July 18). "While generally the adult codling moths of the first generation were less numerous than usual, high temperatures and excessive drought conditions have apparently produced ideal egg-laying conditions. Situation would be serious but for the fact that the majority of infested apples may be removed and destroyed in connection with thinning. Eggs laid from June 14 to July 5; first moth of second generation emerged July 17; about 10 per cent of the first brood worms left the fruit about July 12 in the Willamette Valley."

FRUIT-TREE LEAF-ROLLER (Cacoecia argyrospila Walk.)

- New York C. R. Crosby and assistants. "The moths of this insect appeared about the middle of June, large numbers having been observed in Niagara and Orleans Counties from June 14 to June 20."
- Montana A. L. Strand (July 7). "Fruit-tree leaf-roller still continues to be injurious in unsprayed orchards in the Bitter Root Valley."
- Idaho Claude Wakeland (June 27). "This insect is doing considerable damage for the first time in a large commercial orchard at Rexburg. Mr. Earl Dickerson reported on June 4 that it was discovered for the first time in Apple Valley and Mr. Skuse reported on June 10 that it was discovered for the first time at Lewiston."

UNICORN PROMINENT (Schizura unicornis S. & A.)

- Mississippi R. W. Harned (July 12). "Mr. Kimble Harman sent in a number of specimens of this insect from Long Beach with a statement that they were feeding on apple foliage."

APPLE AND THORN SKELETONIZER (Heterophila varians Clerck)

- Connecticut Phillip Garman (July 21). "Second-brood larvae appeared in large numbers, especially on unsprayed trees in New Haven County."
- B. A. Porter (July 24). "Many trees with foliage badly injured about Wallingford. Many of the second-brood larvae have spun cocoons."
- New York E. P. Felt (July 21). "Second-brood larvae and rather bad skeletonized leaves were sent in July 12 from Ulster Park, indicating a thoroughly established and, presumably, heavy infestation."

FALL WEBWORM (Hyphantria cunea Drury)

- New York G. E. Smith (June 14). "Young fall webworms found today in orchards in Orleans County."
- New Jersey R. Huizing. "This insect was found the latter part of June at Hollywood, Hampton, and New Brunswick, and throughout Sussex County."
- Pennsylvania S. W. Frost (July 19). "Since the last of June these worms have made their appearance and are numerous in poorly sprayed orchards."
- Indiana J. J. Davis (July 20). "The common fall webworm has been found abundant in a few apple orchards of this State."

APPLE LEATHOPPER (Typhlocyba spp.)

- Delaware C. O. Houghton (July 17). "These insects are much less numerous than usual."
- Pennsylvania S. W. Frost (July 19). "Injury serious on apples in part of Adams County. This injury was first noticed about the middle of June, the species involved being Typhlocyba rosae L."
- Ohio H. A. Gossard (July 21). "These hoppers are causing some anxiety among orchardists. The two species which attracted attention in this State are Empoasca mali LeB. and Erythroneura obliqua Say."

SAN JOSE SCALE (Aspidiotus perniciosus Comst.)

- Massachusetts H. T. Fernald (July 21). "We seem to be having practically a normal season for scale insects, nothing unusual having been seen or reported."
- New York A. L. Pierstorff (June 17). "Young scales were observed on this date in Monroe County. The scales are present in moderately large numbers."
- New Jersey R. Huizing. "San Jose scale observed the latter part of June at Hampton and Lakewood."
- Indiana J. J. Davis (July 20). "Many apple trees in the State are dying on account of the San Jose scale. Some orchards which were slightly infested a year ago are now encrusted and some trees already dead."
- Iowa F. A. Fenton (July 15). "A survey made during the month of June on the distribution of this pest in Iowa revealed the fact that it is on the increase and is now found in Lee, Van Buren, Wapello, Mahaska, Henry, Louisa, Muscatine, and Scott Counties."

- Missouri A. C. Burrill (May 31): "Bad infestation found at Maryville."
- Arkansas J. W. Roberts (July 7). "In northwestern Arkansas many trees have been killed by the scale and large numbers have been greatly weakened. Undoubtedly, this has caused a hyper-susceptibility to certain diseases, particularly leaf spots."

EUROPEAN RED MITE (Paratetranychus pilosus C. & F.)

- Connecticut Phillip Garman (July 21). "Heavy rains since the middle of June have considerably reduced the numbers of this pest in New Haven County."
- Pennsylvania S. W. Frost (July 19). "The red spider has become very evident throughout Adams County and is serious in some orchards. Orchards dusted with 90-10 or with 2 per cent nicotine dust show no control while plots treated with lime-sulphur show very little of the red spider."
- Washington E. J. Newcomer (July 10). "The orchard red spider is particularly abundant in some orchards in the Yakima Valley on pear and prune trees and will do considerable damage unless growers are successful in combatting it."

PEAR

PEAR PSYLLA (Psylla pyricola Foerst.)

- New York C. R. Crosby and assistants. "Pear psylla infestation in the apple growing sections of New York is normal or below normal and sprayed orchards are relatively clean. Second-brood nymphs began to appear about the middle of June, summer spray being applied the week of June 26. Observations cover Monroe, Niagara, and Orleans Counties."
- E. P. Felt (July 21). "Very injurious in some orchards in southern Rensselaer and northern Columbia Counties."

PEAR-LEAF BLISTER MITE (Erionhyes pyri Pgst.)

- New York C. R. Crosby and assistants report slight infestations in Dutchess and Orange Counties.
- Ohio H. A. Gossard (July 21). "This pest has been received several times on apple foliage as well as on pear leaves. This is unusual for Ohio."
- Indiana J. J. Davis (July 20). "The pear-leaf blister mite was reported as damaging pears at Wawaka."

PEACH

FLOWER THRIPS (Euthrips tritici Fitch)

- Indiana J. J. Davis (July 20). "The flower thrips was responsible for much injury to peaches this season in southern Indiana. The deformed peaches were very conspicuous when they were the size of a quarter. Some injury of this nature was noticed last year but it is more noticeable and general the present season."

A SCARABAEID BEETLE (Serica trociformis Burm.)

North
Carolina

(Bureau of Entomology Monthly Letter No. 98). "Mr. J. B. Gill reports that considerable damage to the foliage of young trees occurred during the early spring, reports having been received from Aberdeen, Southern Pines, Pinehurst, and Candor, N. C., and also from Cheraw, S. C. These beetles were frequently taken in jarring trees for the curculio but the injury to older trees was not serious. This species is a nocturnal feeder, occurring in great numbers in some of the young peach orchards. They usually burrow into the soil to a depth of one inch near the crown of the trees during the day."

FIRE ANT (Solenopsis geminata Fab.)

North and
South Carolina

(Bureau of Entomology Monthly Letter No. 98). "A species of ant, which is believed to be the above, is proving very troublesome to peach trees set this year on recently cleared woodland in the sand hills of North and South Carolina. These ants cut the foliage and carry the bits of leaves into their nests. Damage by ants is greatly reduced by the frequent stirring of the soil in cultivation and for all practical purposes this seems to be a satisfactory control. Orchards set out on old lands do not appear to be troubled at all by ants."

GREEN SOLDIER-BUG (Nezara hiliaris Fitch)

Georgia

O. I. Snapp (July 1). "The green soldier-bug has been unusually abundant in the peach belt this year and some injury has been noticed in orchards, where these insects suck the juice from the unripe fruit."

SAN JOSE SCALE (Aspidiotus perniciosus Comst.)

Georgia

O. I. Snapp (July 15). "The San Jose scale is apparently increasing rapidly in the Georgia peach belt. Poor results were obtained in many cases last winter with the dormant spray. A large quantity of proprietary compounds was used and in many cases may be responsible for the poor control."

CHEERRY

CHEERRY FRUIT MAGGOT (Rhagoletis cingulata Loew)

New York

D. D. Ward (June 24). "Very few fruit flies have been observed in the cherry orchards of Onondaga County this season."

Oregon

A. L. Lovett (July 18). "Nearly 100 per cent of Lambert and Late Duke cherries in the upper end of the Willamette Valley show maggot injury. Earlier white flesh varieties are attacked but the maggots are scarce at picking time and not conspicuous in the white flesh."

SAY'S BLISTER BEETLE (Pomphopoea savi Lec.)

New York

C. R. Crosby. "The latter half of June reports of damage to cherries by this insect received from Wyoming, Onondaga, Yates, Steuben, and Monroe Counties. Mr. A. L. Pierstorff reports that many cases of serious infestation were observed in the southern half of the latter County."

P. J. Parrott (June 17). "In some instances this insect is completely destroying the blossoms of wisteria, spiraea, roses, and privet. Tests with barium and lead-arsenate show that the insects succumb to arsenicals within thirty-five hours after treatment."

PLUM

PLUM CURCULIO (Conotrachelus nenuphar Hbst.)

- Massachusetts E. R. Farrar (May 28). "First beetle of the season observed at Lincoln on this date."
- Rhode Island A. E. Stone (July 18). "I have seldom seen a year in which the curculio has been more abundant and destructive."
- Connecticut W. E. Britton and assistants. "The plum curculio is reported as seriously abundant in New London, Fairfield, and New Haven Counties."
- New York L. F. Strickland (June 17). "This pest is not as abundant as usual in Niagara County."
- C. R. Crosby and assistants. "Considerable damage has been reported to cherries, plums, and prunes from Ulster and Genesee Counties."
- New Jersey R. Huizing (June 22). "This pest was observed injuring apple at Lakewood."
- Georgia O. I. Snapp (July 15). "The first curculio adult of the second generation transformed yesterday at Fort Valley. The second generation will be small this year on account of the excellent control of the first generation. One of the best peach crops ever produced in Georgia has been harvested this year. The results of the curculio suppression are remarkable. All the varieties, especially the late ones, were very free from worms and feeding marks. Average infestation amounted to one wormy peach to 5/8 bushel basket. In a number of orchards where fruit was cut to obtain percentage infestation the curculio infestation in drop peaches during 1922 shows a reduction of 22.6 per cent from what it was one year ago."

A SCARABAEID (Serica anthracina Lec.)

- Oregon A. L. Lovett (June 14). "Adult beetles appeared in great numbers and seriously defoliated prune trees in a small fruit section in Polk County."

PLUM WEB-SPINNING SAWFLY (Neurotoma inconspicua Norton)

- Nebraska M. H. Swenk (July 15). "During the last week in June in Colfax and Platt Counties the plum trees were badly defoliated by the plum web-spinning sawfly."

BROWN PLUM APHID (Hysteroneura setariae Thos.)

- Wisconsin S. B. Fracker (June 25). "Damage by this pest is reported from Dane and Green Counties."

RASPBERRY

RASPBERRY CANE-BORER (Oberea bimaculata Oliv.)

- Rhode Island A. E. Stone (July 15). "The raspberry cane-borer is showing up in considerable numbers."
- Connecticut B. H. Walden (July 19). "Damaged canes were observed on July 10 at Hamden, New Haven, and North Branford."
- New York C. R. Crosby (June 17). "Infested plants were sent in from Utica, Oneida County."

RASPBERRY FRUITWORM (Byturus unicolor Say)

- Washington E. J. Newcomer (July 17). "This insect was quite common in a raspberry patch in the Yakima Valley. Up to this time I have not observed this insect in this region."

CURRENT

CURRENT APHID (Myzus ribis L.)

- New York E. V. Shear (July 1). "Currant aphid more abundant than usual and a serious pest in some plantings in Ulster County."
- C. R. Crosby (June 20). "Infested material received from Erie County."

IMPORTED CURRENT SAWFLY (Pteronidea ribesi Scop.)

- Connecticut H. L. Johnson. "This pest seems to be becoming much worse each year at South Meriden where the continued use of Paris green is needed to keep it down."

FOUR-LINED PLANT-BUG (Poecillocapsus lineatus Fab.)

- Massachusetts H. T. Fernald. "There is no evidence as yet of an outbreak of the four-lined leaf-bug."
- New York C. R. Crosby. "Infested material sent in from Lackawanna, Erie County."
- New Jersey M. D. Leonard (July 19). "Currant patches with foliage quite badly damaged at Mountain View."

CRANBERRY

BLACKHEAD CRANBERRY WORM (Rhopobota naevana Huebn.)

- Wisconsin O. G. Malde (June 25). "The summer-brood larvae are now hatching and an especially severe infestation is under way in the Mather district."

OBLIQUE-BANDED LEAFROLLER (Gacoecia rosaceana Harris)

Wisconsin O. G. Malde (June 25). "A severe infestation of this insect was observed in the Berlin District. The pest is also reported as present in Waupaca, Wood, Juneau, and Jackson Counties."

CRANBERRY TIP MAGGOT (Dasyneura vaccinii Smith)

Wisconsin O. G. Malde (June 25). "This insect is quite generally distributed throughout the cranberry regions of Wisconsin. Adult flies emerged from June 15 to the 20th."

PECAN

PECAN-NUT CASE-BEARER (Acrobasis hebescella Hulst)

Georgia O. I. Snapp. "Pecan-nut case-bearer is reported by several pecan growers in south Georgia to be very abundant this year with severe injury already showing up on small nuts."

Louisiana T. H. Jones (July 14). "Injured nuts were sent in by a correspondent from Keatchie."

PECAN SHUCKWORM (Laspeyresia caryana Fitch)

Mississippi R. W. Harned (July 18). "The pecan shuckworm has been reported as causing damage to pecans at Pascagoula."

GRAPE

ROSE-CHAFER (Macrodactylus subspinosus Fab.)

Massachusetts H. T. Fernald (July 18). "By this date rose-chafers had entirely disappeared in the vicinity of Amherst."

New York C. R. Crosby and assistants. "The rose-chaffer has been reported as quite destructive in Monroe, Orleans, Onondaga, and Putnam Counties. In Monroe County the damage seemed to be much more serious on sandy soils."

New Jersey R. Huizing (June 7). "This insect was doing damage to roses and fruits at Atlantic Highlands."

West Virginia L. M. Peairs (June 25). "This insect was not as serious as in some former years though present in considerable numbers about Morgantown."

North Carolina Franklin Sherman (July 11). "The rose-chaffer has been abundant and destructive to apple, grape, and roses in certain mountain localities in June."

Ohio H. A. Gossard (July 21). "The rose beetle came in for its usual share of notice."

GRAPE LEAFHOPPER (Erythroneura comes Say)

- New York E. P. Felt (July 21). "The grape leafhopper appeared to be somewhat abundant in portions of the Chautauqua grape belt and in parts of the Hudson Valley. On June 30 considerable numbers of wingless hoppers were observed in northern Columbia County."
- C. R. Crosby and assistants (June 24). "Infestation in Ulster County does not seem to be very heavy this year. The first eggs were observed in Chautauqua County hatching on June 17."
- L. F. Strickland (June 10). "Adult leafhoppers are unusually numerous in Niagara County vineyards. Infestation is as heavy as that which produced the outbreak in 1916."

ACHEMON SPHINX (Pholus achemon Drury)

- California A. J. Flebut (July 18). "This insect is far more abundant than usual in Madera County. First brood was partially controlled by spraying and the second brood is just hatching."

WHITE-LINED SPHINX (Celerio lineata Fab.)

- California A. J. Flebut. "Several instances were noted where full grown caterpillars had left drying up grass field and attacked vineyards. Practically all outbreaks were in new vineyard sections in the San Joaquin Valley. Hand picking seems to be the only satisfactory control."

ALFALFA CATERPILLAR (Eurymus eurvtheme Boisd.)

- California A. J. Flebut. "These insects are leaving cut alfalfa fields and causing some damage in near-by vineyards in the San Joaquin Valley."

~~YELLOW-STRIPED ARMYWORM~~ (Prodenia ornithogalli var. praefica Grote)

- California A. J. Flebut. "This is a pest throughout the San Joaquin Valley, leaving alfalfa, upon which it is generally feeding when cut, and entering near-by vineyards. Ditches are generally successful in checking inroads. Damage is slight except in case of young vines."

GRAPEBERRY WORM (Polychrosis viteana Clem.)

- Ohio H. A. Gossard (July 21). "I judge from material sent in that the grapeberry worm is more numerous in the grape districts near Cleveland than it has been for several seasons."

FALSE CHINCH BUG (Nysius angustatus Uhler)

- California A. J. Flebut. "This insect has been reported from several new sections in Tulare County. No control has been found that was successful."

GRAPEVINE TOMATO GALL (Lasioptera vitis O. S.)

Massachusetts H. T. Fernald (July 21). "During late June and early July the grapevine tomato gall appeared in rather unusual abundance, both on cultivated and wild grapes."

GRAPE-CANE GALL-MAKER (Ampelocystus sesostris LeC.)

Nebraska M. H. Swenk (July 15). "Early in July this insect was discovered in a vineyard in Thurston County. This is a new pest for Nebraska."

FIG

CITRUS MEALYBUG (Pseudococcus citri Risso)

Mississippi R. W. Harned (July 18). "This insect has been reported on figs, coleus, and other plants in various parts of the State. Where the Argentine ants are present the mealybugs are almost certain to be a serious pest to fig and other plants."

Louisiana T. H. Jones (July 15). "As is usual at this season of the year, complaints are being made concerning the abundance of this mealybug on fig. This is usually due to the fact that the pest reaches its maximum abundance at this season. During July reports have been received from New Orleans, Hammond, Addis, and Baton Rouge."

ORANGE

CITRUS THRIPS (Scirtothrips citri Moulton)

California A. J. Flebut. "The citrus thrips is abundant and doing much damage to citrus in Tulare County. Also received several reports of injury to vineyards and other deciduous fruits, particularly plum and apricot."

TRUCK CROP INSECTS

POTATOES AND TOMATOES

.. GOLORADO POTATO BEETLE (Leptinotarsa decemlineata Say)

- Massachusetts H.T.Fernald (July 19). "The Colorado potato beetle and the three-lined potato beetle are about normally abundant."
- Connecticut W.E.Britton. "County agents of New London and New Haven Counties report that the Colorado potato beetle has not been as prevalent this year as usual."
- New Jersey M.D.Leonard (July 19). "This insect is generally scarce throughout Bergen and Passaic Counties, although in isolated patches it is doing considerable damage."
- Iowa F.A.Fenton (July 15). "The Colorado potato beetle was very destructive during the past month, doing more damage than it has in the past four years."
- Wisconsin S.B.Fracker (June 26). "This insect is unusually numerous in the northern commercial potato sections."

.. POTATO FLEA-BEETLE (Epitrix cucumeris Harr.)

- New York C.R.Crosby and assistants. "During the latter half of June flea-beetles were very numerous and destructive in Monroe, Genesee, and Orleans Counties, doing more damage than usual."
- New Jersey M.D.Leonard (July 19). "Serious injury to foliage in several patches, even where spraying was carried on, near Pompton."
- Delaware C.O.Houghton (July 15). "This insect is about normally abundant about Newark."
- Wisconsin S.B.Fracker (June 26). "This insect is about normally abundant throughout the State."
- North Dakota R.L.Webster (June 26). "Injury to foliage by the beetles at this time in Fargo and Cass County."

.. POTATO APHID (Macrosiphum solanifolii Ashm.)

- Massachusetts H.T.Fernald (July 19). "The potato aphid has not yet appeared except a few scattered individuals. There is no evidence as yet of any outbreak."
- New York H.C.Odell (June 17). "The potato aphid was quite effectively checked by the violent wind and rain of June 11. In Nassau County they are multiplying rapidly at present. (July 1) Infestation of the potato aphid is again becoming more prevalent."

- New Jersey M.D.Leonard (July 19). "Fairly common on potatoes, rather scarce on tomatoes, no appreciable damage. Ladybirds are unusually abundant about Pompton."
- Illinois C.C.Compton (July 15). "Potatoes in Cook and Kane Counties generally infested, and at this writing the potato aphid is becoming numerous enough to cause serious damage."

POTATO LEAFHOPPER (Emroasca mali LeB.)

- Massachusetts H.T.Fernald (July 19). "There is no evidence as yet of any outbreak of the potato leafhopper."
- New Jersey M.D.Leonard (July 19). "Hopperburn is severe about Pompton in several large patches of unsprayed potatoes. Nymphs and adults are common, other fields in the vicinity more or less affected."
- Pennsylvania S.W.Frost (July 19). "The injury by this species on potatoes is beginning to become apparent and leafhoppers are present in large numbers."
- West Virginia W.E.Rumsey (July 15). "Leafhoppers are abundant on potato vines at Morgantown and doing considerable damage."
- Iowa F.A.Fenton (July 15). "The potato leafhopper is abundant and destructive, although it is not doing as much damage as it occasioned in 1921. Recent rains during the last week have destroyed practically all of the nymphal stages, with a result that early potatoes, even when unsprayed, are still standing up, although showing considerable hopperburn. The first spray was put on in the northern part of the State during the last week in June, the second spray in the southern part of the State during the first week in July, and in the central part of the State the second week in July."
- Minnesota A.G.Ruggles (July 19). "The potato leafhoppers are fairly abundant, but only in a few cases have they done as much damage as last year."
- Wisconsin S.B.Fracker (June 26). "Adults appeared on potatoes before June 20; nymphs are now common."

THREE-LINED POTATO BEETLE (Lema trilineata Oliv.)

- Massachusetts H.T.Fernald (July 19). "The three-lined potato beetle is about normally abundant."
- New York E.G.Palmer (June 17). "This insect has been found in large numbers in several fields in Chautauqua County."
- New Jersey M.D.Leonard (July 19). "Adults occasionally observed at Pompton and Mountain View."

BLISTER BEETLES (Meloidae)

- New York H.C. Odell (July 1). "Say's blister beetle, Pomphopoea sayi Lec., has appeared in large numbers in three fields in Nassau County."
- Connecticut W.E. Britton (July 24). "Epicauta marginata Fab. is causing some injury in one field near New Haven."
- Indiana J.J. Davis (July 20). "Blister beetles (Epicauta vittata Fab. and E. marginata Fab.) are doing much damage to potatoes, tomatoes, zinnias and dahlias in southern Indiana. I believe no reports have been received north of Columbus, Ind."
- Nebraska M.H. Swenk (July 15). "During the last week in June several reports of injury to potato fields by a striped blister beetle, Epicauta longiscata Fab., were received."
- Montana A.L. Strand (July 8). "Blister beetles, especially Epicauta maculata Say, are causing injury to alfalfa, potatoes, and garden truck over a large part of the State."
- Mississippi R.W. Harned (July 18). "Blister beetles have been reported as appearing in large numbers at several places."

ONION THRIPS (Thrips tabaci L.)

- Washington E.J. Newcomer (July 10). "This insect is attacking a considerable area of potatoes in the Yakima Valley, and some growers are spraying for it, something they have never done before."

BOLLWORM (Heliothis obsoleta Fab.)

- Indiana J.J. Davis (July 20). "The tomato fruitworm has been generally abundant and destructive the past month."

CABBAGE

IMPORTED CABBAGE WORM (Pontia rapae L.)

- Nebraska M.H. Swenk (July 15). "The usual number of complaints of injury by this pest was received during the period covered by this report (June 15-July 15)."
- Mississippi R.W. Harned (July 8). "On this date larvae were seen in a garden patch of collards at A & M. College."

CABBAGE MAGGOT (Hyalemyia brassicae Bouche)

- Connecticut H.L. Johnson. "This pest seems to be holding its own and bids fair to grow worse with each year."

New York P.J.Parrott (June 17). "The cabbage maggot is abundant in seed beds, but owing to frequent rains the plants are making good growth, showing little evidence of injury about Geneva."

E.P.Felt (July 21). "Cauliflower plants severely injured by this pest were received late in June from Clinton County."

C.R.Crosby and assistants report that injury by this pest is less serious than usual in Onondaga and Monroe Counties."

CABBAGE APHID (Brevicoryne brassicae L.)

New York H.C.Odell (July 1). "This insect is showing up in serious numbers in Nassau County."

Iowa Fred D.Butcher (July 20). "At Muscatine the cabbage aphid was found attacking about 400 acres of cabbage on June 24. These plants had been shipped from the south about the middle of April and the growers noticed lice on them at that time. However, no damage was evident until about June 20."

HARLEQUIN BUG (Murgantia histrionica Hahn)

Mississippi R.W.Harned (July 10). "Infestation heavy about A. & M. College, average of 20 adults and nymphs to each collard plant."

CABBAGE LOOPER (Autographa brassicae Riley)

Mississippi R.W.Harned (July 8). "Infestation heavy at A & M. College, 36 larvae to a full grown collard plant."

BEANS

MEXICAN BEAN BEETLE (Epilachna corrupta Muls.)

North Carolina Franklin Sherman (July 11). "The Mexican bean beetle has been sent to us from two mountain localities representing a slight extension of the territory already found to be infested, one in Cherokee County and the other in Clay County."

Mississippi R.W.Harned (July 18). "So far the Mexican bean beetle has not been found in Mississippi."

BEAN LEAF-BEETLE (Cerotoma trifurcata Foerst.)

Mississippi R.W.Harned (July 10). "This insect is rather abundant on beans at A. & M. College, average of 2 beetles to every full grown plant."

SOUTHERN GREEN PLANT-BUG (Nezara viridula L.)

Louisiana T.H.Jones (July 15). "Complaints received from correspondents in Caddo and Vermillion Parishes especially regarding injury to lima beans, though injury to other beans, okra, and Irish potatoes was mentioned."

GREEN SOLDIER BUG (Nezara hiliaris Fitch)

Georgia O.I.Snapp (July 18). "This soldier bug is more abundant about Fort Valley than it has been for a number of years. Lima beans in many gardens have been almost totally destroyed by the 'stings' in the developing pods."

WHEAT WIREWORM (Agriotes rancus Say)

New York C.R.Crosby (June 20). "Seven acres of beans in Schuyler County very badly infested by this wireworm. This field was planted to wheat and plowed under this spring. Last year it was in beans following a clover sod."

WESTERN 12-SPOTTED CUCUMBER BEETLE (Diabrotica soror Lec.)

Oregon A.L.Lovett (July 18). "Serious injury occurs to many crops. Beans, potatoes, and the silk of sweet corn have proven favorite foods. Damage exceptionally serious in Lane County."

STRIPED CUCUMBER BEETLE (Diabrotica vittata Fab.)

Massachusetts H.T.Fernald (July 19). "The overwintering adults of the striped cucumber beetle have been disappearing from fields since about the 15th."

New York M.C.Hammond (June 29). "The larvae of the striped cucumber beetle are causing more damage than was observed last year in Summit County."

West Virginia L.M.Pearis (July 6). "This insect is probably less numerous than at this time last year in this State."

Iowa F.D.Butcher (July 20). "On June 22, I found the striped cucumber beetle destroying the first planting of pumpkin and squash at Atlantic."

Wisconsin S.B.Fracker (June 25). "More complaints than usual from southern two-thirds of the State."

Nebraska M.E.Swenk (July 15). "Usual number of complaints of injury by this pest received during the past month."

SQUASH

SQUASH BUG (Anasa tristis DeG.)

Massachusetts H.T.Fernald (July 19). "The squash bug is in normal abundance. Eggs are hatching and a few nymphs developed to the third instar may now be found."

Iowa Fred D. Butcher (July 20). "The squash bug was ovipositing at this time."

- Nebraska M.H. Swenk (July 15). "The usual number of complaints of injury by this pest were received during the past month."
- Oregon A.L. Lovett (July 12). "Serious injury from July 5 in southern Oregon and at The Dalles."

ONION

ONION THRIPS (Thrips tabaci Lind.)

- Massachusetts H.T. Fernald (July 21). "The onion thrips, which is frequently very abundant by this time, has not been observed up until the past week and even now is not doing any amount of appreciable damage."
- Mississippi R.W. Harned (July 10). "A small patch of onions at A & M. College heavily infested."

SPOTTED CUTWORM (Agrotis c-nigrum L.)

- Massachusetts H.T. Fernald (July 21). "On July 19, this insect was found attacking onions in Sunderland district in the Connecticut Valley, the larvae cutting the half grown to nearly full grown plants nearly to the bulb. The field infested was directly west of a heavy clover sod which had just been cut. It seems evident that the cutworms migrated from this clover field. In two days they had worked into the field 14 rows. In another case where recently cut clover was near by, they had migrated to corn and onions. It was not uncommon to find from 2 to 3 well grown larvae in a single onion leaf."

SUGAR BEET

SUGAR-BEET WEBWORM (Loxostege sticticalis L.)

- Montana A.L. Strand. "Preparations are under way to induce all growers in the Yellowstone Valley to combat a heavy infestation of the sugar-beet webworm."

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SOUTHERN FIELD CROP INSECTS

COTTON

BOLL WEEVIL (Anthonomus grandis Boh.)

- Alabama B.R.Coad (Delta Laboratory, July 20). "Heavy infestations of the boll weevil are reported from Jackson, DeKalb, Cherokee, Lawrence, Morgan, Fayette, Walker, Jefferson, Pickens, Randolph, Lee, Choctaw, Monroe, Butler, Montgomery, Bullock, Barbour, and Geneva Counties. Moderate infestation is reported from St. Clair and Colbert Counties and slight infestation from Franklin, Marion, Madison, Talladega, Marengo, and Macon Counties. Reports were received from thirty-four counties on boll weevil conditions between June 15 and July 15."
- Arkansas B.R.Coad (Delta Laboratory, July 20). "Heavy infestation has been reported from Grant, Desha, Howard, Pulaski, Chicot, Prairie, White, Nevada, Hot Spring, Poinsett, Pike, Clarke, Faulkner, and Sharp Counties. Slight infestation is reported from Lonoke, Ashley, Woodruff, Mississippi, Montgomery, Yell, Cleburne, Jackson, St. Francis, Polk, Perry, Lincoln, Randolph, Monroe, Independence, Phillips, Arkansas, Dallas, Miller, and Lafayette. Reports of the presence of the weevil were received from forty counties in this State." Bureau field workers ascertained the percentage infestation in the following counties: Ashley, 8 per cent; Chicot, 15-75 per cent; Pulaski, 15-30 per cent; Woodruff, 2-15 per cent; Miller, 4-15 per cent."
- Florida B.R.Coad (June 15). "Reports indicate a more widespread infestation than in 1921. Numbers of weevils in most sections much larger than in previous years for this period. A heavy scattered infestation is reported from Madison County."
- Georgia B.R.Coad (Delta Laboratory, July 20). "Boll weevil infestation was reported as heavy in Morgan, Troup, Franklin, Floyd, Jasper, Harris, Washington, Early, Columbia, Carroll, Chatham, Laurens, Clay, Terrell, Crisp, and Houston Counties. The weevils were also numerous in McDuffie and Newton Counties. Slight infestation was reported from Colquitt, Randolph, Muscogee, Thomas, Bibb, Spalding, Coweta, Marion, and Monroe Counties. Reports of the presence of the weevil were reported from 34 counties."
- Louisiana B.R.Coad (Delta Laboratory, July 20). "Heavy boll weevil infestation was reported from Webster, Bienville, Natchitoches, East Carroll, Tensas, Rapides, Avoyelles, Red River, West Carroll, and Morehouse Counties. Slight damage was reported from Richland, Lafayette, St. Landry, East Feliciana, Ouachita, and DeSoto Counties. The Bureau's field men ascertained percentage damaged in the following counties: Richland, 15-30 per cent; Ouachita, 25 per cent; DeSoto, 10-20 per cent; Red River, 10-40 per cent; Natchitoches, 15-30 per cent; Avoyelles, 20-48 per cent; Rapides, 15-50 per cent; Bossier, 45-100 per cent."
- Mississippi R.W.Harned (July 18). "As a whole, weevils are not as abundant now as we had reason to expect they would be a month ago. Apparently

THE LIFE OF SAMUEL JOHNSON

He was born at Lichfield, in the county of Stafford, on the 9th of September, 1709. His father, Michael Johnson, was a bookseller, and his mother, Katherine, was the daughter of a farmer. He was educated at the grammar school of Lichfield, and then at St. John's College, Oxford, where he took his degree of Bachelor of Arts in 1733.

After leaving Oxford, he spent some time in London, and then went to the University of Cambridge, where he took his degree of Master of Arts in 1736. He then returned to Lichfield, and spent some time in the study of law, but he was not successful in this pursuit. He then went to the University of Oxford, where he took his degree of Doctor of Laws in 1740. He then returned to Lichfield, and spent some time in the study of law, but he was not successful in this pursuit.

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they are more abundant in the hill sections of the State than in the Delta but even in the hills many fields can be found with less than 10 per cent infestation. More planters are poisoning against the boll weevil than ever before."

B.R.Coad (Delta Laboratory, July 20). "Heavy weevil infestation was reported from the following counties: Holmes, Tallahatchie, Marshall, Tate, Monroe, Atalla, Coahoma, Montgomery, Jefferson, Jeff Davis, Pike, Lawrence, Calhoun, Sunflower, Benton, Neshobee, Prentiss, Claiborne, Union, Bolivar, Sharkey, Tippah, Webster, Lincoln, Franklin, Oktibbeha, Tishomingo, Alcorn, Winston, Grenada, Warren, Washington and Quitman. The heavy infestations were checked by weather conditions in several of these counties. Slight infestations were reported from Panola, Carroll, Pontotoc, Lafayette, Jasper, Chickasaw, Walthall, Leake, Hinds, Clay, Jones, Humphreys, Carroll, DeSoto, Tunica, Lee, Neshoba, Lauderdale, Wayne, Simpson, and Yalobusha Counties. Reports were received from 58 counties in this State."

North
Carolina

Franklin Sherman (June 23). "The weevil is reported as plentiful in Robeson, Columbus, Anson, Union, and Scotland Counties with occasional specimens reported from Richmond, Bladen, Mecklenburg, Moore, Cumberland, and Onslow Counties."

Oklahoma

B.R.Coad (Delta Laboratory, July 20). "Heavy infestation of the weevil is reported from Pittsburg and parts of Haskell, Pontotoc, Atoka, Okfuskee, Bryan, and Lincoln Counties. Slight infestations are reported from LeFlore, Jefferson, Cleveland, Caddo, Comanche, McCurtain, Choctaw, Logan, and McLain Counties. The weevil is reported from 24 counties in this State."

South
Carolina

B.R.Coad (Delta Laboratory, July 20). "Shows a comparatively light infestation during this period while reports indicate considerable increase in infestation in the prospect of new generation of weevils now hatching. They were reported as plentiful in Aiken, Chesterfield, Chester, Sumter, Abbeville, Spartanburg, Lancaster, Clarendon, and Orangeburg Counties and slight in Anderson and Newberry Counties. They were reported from 14 counties in this State."

Tennessee

B.R.Coad (Delta Laboratory, July 20). "Heavy infestations of the boll weevil are reported in Decatur, Hardin, McNairy, Fayette, Shelby, Hardeman, and Chester Counties and light infestations in Tipton, Giles, Henderson, Haywood, Madison, Lauderdale and McMinn Counties."

Texas

B.R.Coad (Delta Laboratory, July 20). "The Bureau's field workers have determined the percentage infestation in the following counties: Cameron, 92 per cent; Hidalgo, 94-95 per cent; Jim Wells, 51 per cent; Nueces, 47 per cent; Brazoria, 40 per cent; Liberty, 39 per cent; Jasper, 6 per cent. Heavy infestations are also reported from Ellis, Eays, Coryell, Gregg, Fannin, Denton, Parker, Wise, Cooke, Sabine, Wilson, Cherokee, and Grayson Counties and slight infestations in Montagne, Hopkins, Bell, Eastland, Cass, McLennan, and Collin Counties. Weevils were reported from 43 counties in this State."

COTTON WORM (Alabama argillacea Hüb.)

B.R.Coad (Telegram August 1). "Cotton leaf-worm reported very generally during the past few days, over Texas, Louisiana, and Mississippi, and becoming abundant around Tallulah, La. Apparently very widespread infestation developing."

COTTON RED SPIDER (Tetranychus telarius L.)

Mississippi R.W.Harned (July 18). "The cotton red spider is causing some loss in this State."

CORN-SILK BEETLE (Luperodes varicornis LeC.)

North Franklin Sherman (July 11). "This beetle was reported once during Carolina the month destroying the blossoms of cotton. This is the first report in several years."

COTPEA CURCULIO (Chalcoderma aeneus Boh.)

North Franklin Sherman (July 11). "This beetle has caused numerous complaints Carolina since May 18. This pest has been found more prevalent than usual but we are convinced that the damage is not serious."

BOLLWORM (Heliothis obsoleta Fab.)

North Franklin Sherman (July 11). "On July 1 an outbreak was reported Carolina from Lee County, the insect spreading from oats and vetch into cotton. This sounded very much like the fall armyworm but the specimens were determined as the above at Washington. At about the same time similar outbreaks occurred along the South Carolina line. In this latter locality a cotton dusting machine was used to apply calcium-arsenate with entire satisfaction. The larvae were attacking the foliage in large numbers. Squares have not yet formed."

Mississippi R.W.Harned (July 18). "This insect is attracting about the normal amount of attention as a pest of cotton."

COTTON APHID (Aphis gossypii Glov.)

U. S. B.R.Coad (June 15). "Presence of aphids during the week ending May 20, was reported from Alandale, S.C. Gibson, N.C., Waynesboro, Ga., Buena Vista, Ga., and Runge, Tex."

SUGAR-CANE BORER (Diatraea saccharalis Fab.)

Louisiana

T.E.Holloway. "At the suggestion of Dr. Howard, adults of Habrobracon brevicornis, a parasite of the European corn borer from France, were sent to the sugar-cane insect laboratory at New Orleans for use against the sugar-cane moth borer. They attacked larvae of the moth borer readily and were bred successfully under laboratory conditions. Several hundred of the parasites have been released on a plantation near Lake Charles, La."

TOBACCO

WEBWORMS (Crambus caliginosellus Clem. and
Acrolophus poeanella Clem)

Tennessee

A.C.Morgan. "The most serious infestation of tobacco crambids in the history of Tennessee occurred this year and culminated in June. This was also the worst year on record for hornworm injury to tobacco in this State."

FOREST AND SHADE - TREE INSECTS

GENERAL FEEDERS

PERIODICAL CICADA (Tibicina septendecim L.)

Brood XIII.

West

Virginia

W. E. Rumsey (June). "The periodical cicada was reported from the following places in West Virginia: Lincoln County (Bernie, Bulger, Minerva, Myra, Priestley, Sand Creek, Sheridan), Logan County (Pecks Mills), Mason County (Grimes Landing), Monongalia County (Morgantown), Putnam County (Bee, Midway, Scott, Depot, Scary, and Waldo)."

Indiana

J. J. Davis. "The periodical cicada has appeared in the following places in the northwestern corner of Indiana: Hammond, Cedar Lake, Lowell, between Westville and Morris, and Wanatah. Considerable damage has been done to forest and orchard trees. Apple and other fruit trees suffered most. All of the reports so far have come from the three lake counties."

Illinois

(Bureau's Correspondence). "During late June correspondence indicated the presence of the periodical cicada at Joliet and Roselle."

Iowa

(Bureau's Correspondence June 15). These insects have been reported very numerous in the timber about Dyersville.

Wisconsin

(Waterford Post, June). "One day last week, according to a report, the sky over Lake Geneva was clouded with these insects and the woods are resounding with their wailings."

S. B. Fracker (June 26). "This insect is common throughout the southern part of the State north to Sauk County. Definite records have come in from Grant, Walworth, and Sauk Counties."

Brood XXI

Florida

Jeff Chaffin (July 29). "Reports from inspectors and county agents indicate that the XXI brood of the periodical cicada is present all over North and West Florida at the present time. I have received specimens from as far west as Bay County, Panama City, and collected a few specimens here at Gainesville yesterday. The brood seems less numerous than usual and just appeared within the last ten days or two weeks."

FALL WEBWORM (Hyphantria cunea Drury)

Massachusetts H. T. Fernald (July 14). "First tents of the fall webworm were seen at Amherst today. These contain larvae from 3 to 4 days old."

Iowa

Fred D. Butcher (July 20). "Webworms were very common on boxelder and ash trees in Cass and Montgomery Counties."

- Nebraska M. H. Swenk (July 15). "The whole of eastern Nebraska is again threatened with a scourge of the fall webworm on shade trees similar to the one experienced last year, as the first brood of this pest was very plentiful and defoliated trees extensively in some places."
- Mississippi R. W. Harned (July 18). "The fall webworm is more abundant and more serious than we have ever known it to be at this time of the year. Thousands of small trees in all parts of the State have been completely defoliated. Rather large trees are to be seen with several dozen webs on them. So far only the first generation has appeared, but the worms are probably more abundant than they usually are during the second generation. If natural enemies do not help this year, we can expect very serious losses from this pest when the second generation appears in August and September. Their favorite food plants seem to be in the following order: persimmon, pecan, hickory, walnut, sycamore, black gum, sweet gum, and elm."

- Louisiana T. H. Jones (July 7). "Webs noted to be rather common in woodlands near Olla in LaSalle Parish."

BAGWORM (Thyridopteryx ephemeraeformis Haw.)

- North Carolina Franklin Sherman (July 9). "The evergreen bagworm is causing more inquiries than usual."
- Indiana J. J. Davis (July 20). "The bagworm is, as usual, prevalent in southern Indiana and has been reported as especially destructive to arborvitae."
- Mississippi R. W. Harned (July 18). "The bagworm is very abundant at several places in this State on cedars and arborvitae."
- Louisiana T. H. Jones (June 17). "This insect has been reported as destructive at Bogalusa."

ELM SPANWORM (Ennomos subsignarius Huebn.)

- New York G. E. Smith (June 24). "The moths of this insect appeared in Orleans County on June 18 and 19, but are not as plentiful as last year."
- Indiana J. J. Davis (July 20). "Recently two reports, with specimens, of defoliation of shade trees and timber trees by the larvae of this pest, have been received from Albion in the northern part of the State and from Lizton in the central part. In the latter place this is the third consecutive season that this insect has been a pest. This insect was also observed in the woodlands along White River from Broad Ripple to Noblesville, and has been recorded along Fall Creek as far as Ft. Benjamin Harrison. Specimens have also been sent in from Winchester. There seems to be a heavy tachinid parasitism which will probably largely control this outbreak."

SPRING CANKERWORM (Paleacrita vernata Peck)

New York

T. C. Murray (June 17). "Forest trees were severely defoliated in the vicinity of Cedar Pond in Rockland County."

BOXELDER

BOXELDER TWIG BORER (Proteopteryx willingana Kearf.)

North
Dakota

R. L. Webster (June 29). "A number of reports have come in of this twig-borer, mostly from the central portions of the State."

CECROPIA MOTH (Samia cecropia L.)

North
Dakota

R. L. Webster (June 29). "Moths were sent in by several correspondents. The larvae of this insect frequently strip boxelders and foliage during the season."

CATALPA

CATALPA SPHINX (Ceratomia catalpae Boisd.)

Ohio

H. A. Gossard (July 21). "The catalpa sphinx was again quite numerous in June in some catalpa groves in Miami County."

Mississippi

R. W. Harned (July 18). "Apparently two distinct generations of the catalpa sphinx have already been observed at Starkville."

CATALPA MIDGE (Cecidomyia catalpae Comst.)

Ohio

H. A. Gossard (July 21). "In late June and early July we had several reports of the catalpa midge."

ELM

ELM LEAF-BEETLE (Galerucella luteola Muell.)

Massachusetts

H. T. Fernald (July 21). "Late in June the elm leaf-beetle was reported to be present in large numbers in sections of Westfield and Longmeadow. These reports can not be considered conclusive, as the pest can not be found at Amherst."

New York

E. P. Felt (July 21). "This insect was reported as having badly skeletonized elms at Waterford, Saratoga County, and also noted at Loudonville and about Albany. In Rochester Mr. R.E. Horsey reports that badly infested trees have been noted in the old area, and a new one infested in the eastern portion of the City."

C. R. Crosby (July 4). "Specimens of damage done by this pest were sent in from Auburn, Cayuga County."

New Jersey
West
Virginia

Richard Huizing (July 7). "This insect is damaging elms at Princeton."

L. M. Peairs (July 6). "This insect is very abundant on a few trees in Martinsburg. It is not usually injurious in this State."

WOOLLY ELM APHID (Eriosoma americanum Riley)

- Indiana J. J. Davis (July 20). "The elm leaf-curl continues to be the subject of frequent inquiries."
- Mississippi R. W. Harned (July 18). "The woolly elm aphid is causing noticeable injury to elms on the Campus of the A. & M. College."

COCKSCOMB ELM-GALL (Colopha ulmicola Fitch)

- New York C. R. Crosby and assistants. "This insect is reported as attacking elms in Cayuga, Erie, and Chemung Counties."
- West Virginia L. M. Peairs (July 6). "Several cases of injury to elm trees by this insect have been reported. This is unusual as a pest in this State."
- Ohio H. A. Gossard (July 21). "The cockscomb gall has been sent to us very frequently of late."
- Indiana J. J. Davis (July 20). "The cockscomb gall continues to be the subject of frequent inquiries."

MAPLE

COTTONY MAPLE SCALE (Pulvinaria vitis L.)

- Rhode Island A. E. Stene (July 18). "Large numbers of inquiries of this insect are coming into the office of the State Board of Agriculture and the College, indicating that the pest is attracting a good deal of attention."
- New York E. P. Felt (July 21). "Badly infested material was received early in July from Schenectady."
- New Jersey H. B. Weiss and assistants. "During the latter half of June this pest was reported from Maplewood, Mountain Lakes, Madison, Westfield, and Crawford, West Va."
- West Virginia L. M. Peairs (July 6). "This insect is apparently doing an unusual amount of damage in several places in this State."
- Indiana J. J. Davis (July 6). "The cottony maple scale has not yet been checked by its natural enemies. Unless the parasites show up more actively during the latter part of the season this scale will be very abundant next year. Some spraying experiments with lubricating oil emulsion have given from 90 to 100 per cent control."

MAPLE BORER (Glycobius speciosus Say)

- Connecticut W. E. Britton (July 24). "This insect is seemingly more abundant than usual. It has been reported from Ridgefield, Plymouth, Torrington, Hamden, New Haven and South Meriden. Mr. H. L. Johnson reports that the pest has practically killed a double row of large maples in the last named town."

OAK

Heterocampa bilineata Pack.

North
Carolina

Franklin Sherman (July 21). "Caterpillars reported on July 10 as defoliating oak trees in central North Carolina."

OAK LACE-BUG (Corvthucha arcuata Say)

New Jersey

H. B. Weiss (July 6). "This insect is very abundant on oak at Lake Hurst."

PINE

Olene sp.

Wisconsin

S. B. Fracker (June 24). "Thousands of acres of pine in Burnett County are heavily infested with a species of Olene, probably Olene manto var. montana Beut. This species caused a very similar outbreak about 1907."

POPLAR

POPLAR LEAF-STEM GALL APHID (Pemphigus populi-transversus Riley)

North
Dakota

R. L. Webster (July 16). "Reports of this insect on poplar have come in from Divide, Ward, and Cass Counties."

SPRUCE

COTTON RED SPIDER (Tetranychus telarius L.)

Nebraska

M. H. Swenk (July 15). "During the last 10 days of June and up to July 5, spruce trees were severely attacked by red spiders in Antelope Valley, Custer, and other counties along the eastern edge of the sand hills, a lesser number of similar reports being received from the more eastern counties."

TULIP

TULIP SCALE (Toumevella liriodendri Gmel.)

West
Virginia

L. M. Peairs (July 6). "Three reports of serious damage to tulip trees have been received, from the vicinity of Huntington."

GREENHOUSE AND ORNAMENTAL

PLANT INSECTS

GENERAL FEEDERS

JAPANESE BEETLE (Popillia japonica Newm.)

New Jersey Bureau of Entomology Monthly Letter No. 98. "There was received at the Japanese beetle laboratory earlier in the spring what is believed to have been one of the largest shipments of imported parasite material ever brought into this country. Something over 100,000 cocoons of a tachinid known to be parasitic on the Japanese beetle in Japan were sent to the laboratory by the Bureau's representative stationed in Japan. The large proportion of the cocoons were in good condition and emergence has just started."

COTTONY CUSHION SCALE (Icerya purchasi Mask.)

Louisiana T. H. Jones (June 30). "County agent at Shreveport reports that several heavy infestations of the cottony cushion scale have been discovered at this place. The insect is spreading rapidly. One small colony of the vedalia beetle has been sent from the experiment station, but these have disappeared and appear to have been lost altogether."

IRIS

Mononychus vulpeculus Fab.

Connecticut H. L. Johnson (June 15). "This insect is doing considerable damage to iris at South Meriden."

IRIS BORER (Macronoctua onusta Grote)

Maine C. S. Weigel. "This insect is reported as particularly injurious to iris during the month of July from Oak Island."

New York C. S. Weigel. "This insect is reported as particularly injurious during the month of July from Ballston Lake."

Ohio H.A. Gossard (July 21). "During July specimens of this insect were received from Western Reserve University where they were destroying iris plants. This caterpillar bears considerable superficial resemblance to the European corn borer."

ROSE

ROSE LEAF-BEETLE (Nodonota puncticollis Say)

New York E. P. Felt (July 21). "Appears to have been unusually abundant in Columbia County, also reported earlier in the season from Putnam County."

RHODODENDRON

RHODODENDRON LACE-BUG (Stenhanitis rhododendri Horv.)

New York E. P. Felt (July 21). "Mr. R. E. Horsey reports that this insect is quite numerous in the Rochester Parks."

AZALEA

AZALEA SCALE (Eriococcus azaleae Const.)

Connecticut W. E. Britton (July 24). "Have never observed this insect so numerous as it is this year in New Haven."

DELPHINIUM

CYCLAMEN MITE (Tarsonemus pallidus Banks)

New York C. R. Crosby (June 16). "Found severely infested plants of delphinium in Oneida County."

Ohio H. A. Gossard (July 21). "We have had numerous reports of damage by this insect, particularly to delphinium, strawberries, and greenhouse plants."

HAWTHORN

A LACE-BUG, Corvthucha cydoniae Fitch

Mississippi R. W. Allen (July 15). "This tingis was very abundant on hawthorn at the Agricultural College. The leaves turned rusty brown and dropped. They are covering an area of approximately 50 acres and several adults can be found on every leaf."

GROUNDSEL TREE (Baccharis halimifolia L.)

A LACE-BUG, Tingis sp.

New York E. P. Felt (July 21). "Mr. R. E. Horsey reports a moderate infestation by this pest about the middle of July. The infestation was easily controlled with nicotine soap spray."

INSECTS INFESTING HOUSES AND PREMISES

ANTS (Formicidae)

- Mississippi R. W. Harned (July 18). "The fire-ant, Solenopsis geminata Fab. (vars. xyloni and rufa) have been frequently reported from houses in this State. Solenopsis molesta Say has also been reported. The tiny black ant, Monomorium minimum Buckley, has been reported from a number of towns. Monomorium pharaonis L. is next to the Argentine ant, the worst house ant in Mississippi. This is particularly a meat-loving species. Another species that has been reported as visiting households is Tetramorium guineense Fab."
- Connecticut W. E. Britton (July 24). "Many more complaints than usual have been received relative to these insects from New Haven."

ARGENTINE ANT (Iridomyrmex humilis Mayr)

- Mississippi R. W. Harned (July 18). "This pest has now been reported from over 55 different towns and cities in Mississippi. All of these towns, with the exception of three, are on railroads, indicating that these have been the greatest factor in the distribution of this pest. Aside from getting into food they infest beds, drive poultry from their nests, and act as distributors of scale insects and plant-lice."

A CADDICEFLY (Macronema zebratum Hag.)

- Massachusetts H. T. Fernald (July 21). "About the first of July swarms of these caddiceflies were reported from Montague City (near Greenfield) as swarming on the houses, on clothing hung out to dry, and attracted to light, proving a great annoyance to residents in that region. On July 3 I visited this town and found this trichopteran. On that date they were fast disappearing. Curiously enough, more of these insects were found on the black smooth surface of the macadamized road than anywhere else at the time of my visit. Practically none could be found on the shrubbery and few on the sides of houses but they kept appearing from somewhere and alighting on the road and skipping on its surface in a very peculiar fashion. This insect is usually rather rare in this part of Massachusetts."

GRASS MAGGOT (Sciara sciophila Loew)

- Pennsylvania S. W. Frost (July 19). "The larvae of this species have been found in large numbers among the grass plants beneath the shade of maple trees at Arendtsville. They are attracting much attention because of their abundance and are more or less of a nuisance."

A SWEAT BEE, Agapostemon virescens Fab.

- New York E. P. Felt (July 21). "Specimens of this bee were received early in July from Catskill, in Greene County. They were reported as being so numerous upon lawns as to destroy the sod by their burrowing operations."

INSECTS ATTACKING MAN AND DOMESTIC ANIMALS

MAN

CHIGGERS (Trombidium spp.)

- Maryland J. A. Hyslop (July 25). "Chiggers are much more prevalent than they were last year in southern Montgomery County. The summer has been extremely wet."
- Texas F. C. Bishopp (July 27). "With the coming of hot, dry weather during the latter part of June and July the unusual abundance of chiggers rapidly decreased."

CATTLE

SPINOSE EAR TICK (Ornithodoros megnini Duges)

- Texas F. C. Bishopp (June 26). "The writer and D. C. Parman found the ear tick causing considerable annoyance in Uvalde County during June. Stockmen say it is much more abundant than usual."

SCREW-WORM (Chrysomya macellaria Fab.)

- Texas F. C. Bishopp (July 27). "After about July 10 screw-worm cases, which had been rather more numerous than normal in southwestern Texas, began to subside materially. On this date Mr. D. C. Parman reports comparatively few cases among cattle in the vicinity of Uvalde. This is undoubtedly associated with the hot, dry weather."

HORNFLY (Haematobia irritans L.)

- Texas F. C. Bishopp (July 27). "During May and the greater part of June hornflies were a pest of much importance throughout practically all of Texas. About the middle of June they began to decrease materially and there was noted in some sections a tremendous increase in the number of tumblebugs, especially Canthon vigilans. In places these were so numerous as to completely break up the dung within a few hours after it was dropped. These beetles and the hot, dry weather are probably responsible for the falling off in the number of flies."

SHEEP

BLACK BLOWFLY (Phormia regina Meig.)

- Texas F. C. Bishopp (July 27). "This fly has practically disappeared in Texas. It was extremely numerous and caused heavy loss among sheep raisers in the western part of the State during the spring."

SHEEP SCAB (Psoroptes communis Furst.)

California (California Weekly News Letter, Volume 3, No. 29). "On account of the presence of sheep scab in Lassen County, the movement of sheep from this county has been prohibited except where shipment is accompanied by certificate of inspection. This order became effective July 15."

POULTRY

STICKTIGHT FLEA (Echidnophaga gallinaceus Westw.)

New York C. R. Crosby (June 10). "This insect was sent in from Frewsburg, Chautauqua County, and determined by Mr. R. C. Shannon."

